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ACORN DROP

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1 Introduction

《ACORN DROP》is a kind of indoor ticket machine. Its play is easy. The game begins when the player has inserted enough money to create 1 “credit”. The Player then uses a joystick to position an Acorn above any of the score holes on the playfield, then releases a ball which falls into the hole. The player receives the ticket values associated with the hole.

2 Important Note

2.1 Before plugging the game in, or turning it on, Be sure the game has been set to the proper voltage. Your game should come pre-set from the factory to the correct voltage; however it is a good idea to check the AC wall receptacle voltage before plugging the game in.

2.2 Always remove power to the game before attempting any service, unless needed for specific testing, Failure to observe this precaution could result in serious injury to yourself or others.

2.3 Regular cleaning of the game will keep it looking new, and greatly enhance its appeal.

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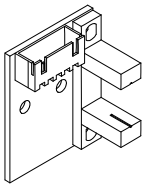
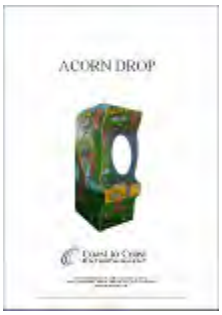
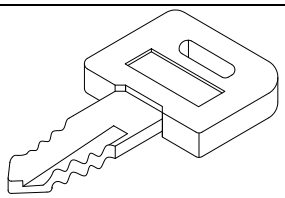
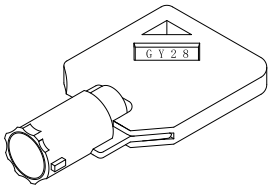
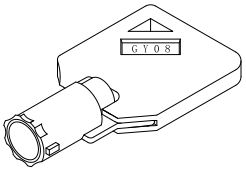
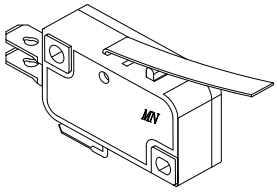
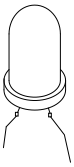
3 Accessories

Please check the following accessories complete and nothing missing.

Item	Description	Specification	Quantity	Remark
1	Power Cable	10A/250v	1	
2	User Manual		1	
3	Key		2	Side Door
4	Key	GY28	2	Front/Back Door
5	Key	GY08	1	Cash Box
6	Micro Switch		2	
7	Infrared Transistor (Transmitter)	ϕ 5	3	
8	Infrared Transistor (Receiver)	ϕ 5	3	
9	Sensor		1	

		
Sensor	Power Cable	User Manual
		
Key	Key GY28	Key GY08
		
Micro Switch	Infrared Transistor (Transmitter)	Infrared Transistor (Receiver)

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4 Technical Parameter

Environment Requests: Indoor/Ventilated dry/Electric voltage stable
Dimension: D110cm x W72cm x H197cm
Weight: 180Kg
Power: AC 110V/220V ±5%
Maximum Power: 135W
Player(s): 1

5 Game Play

1. Insert Coin Game Start
2. Use joystick to control “Nut” Moving to Left, Right and Front, Back.
   Which hole you want to get it.
   Push the Start button.
   Ball will drop down to the hole.
3. The ball can not direct drop to hole.
   It will roll at the playfield and drop to the hole.
   Display will show number of tickets.
4. Get your tickets.

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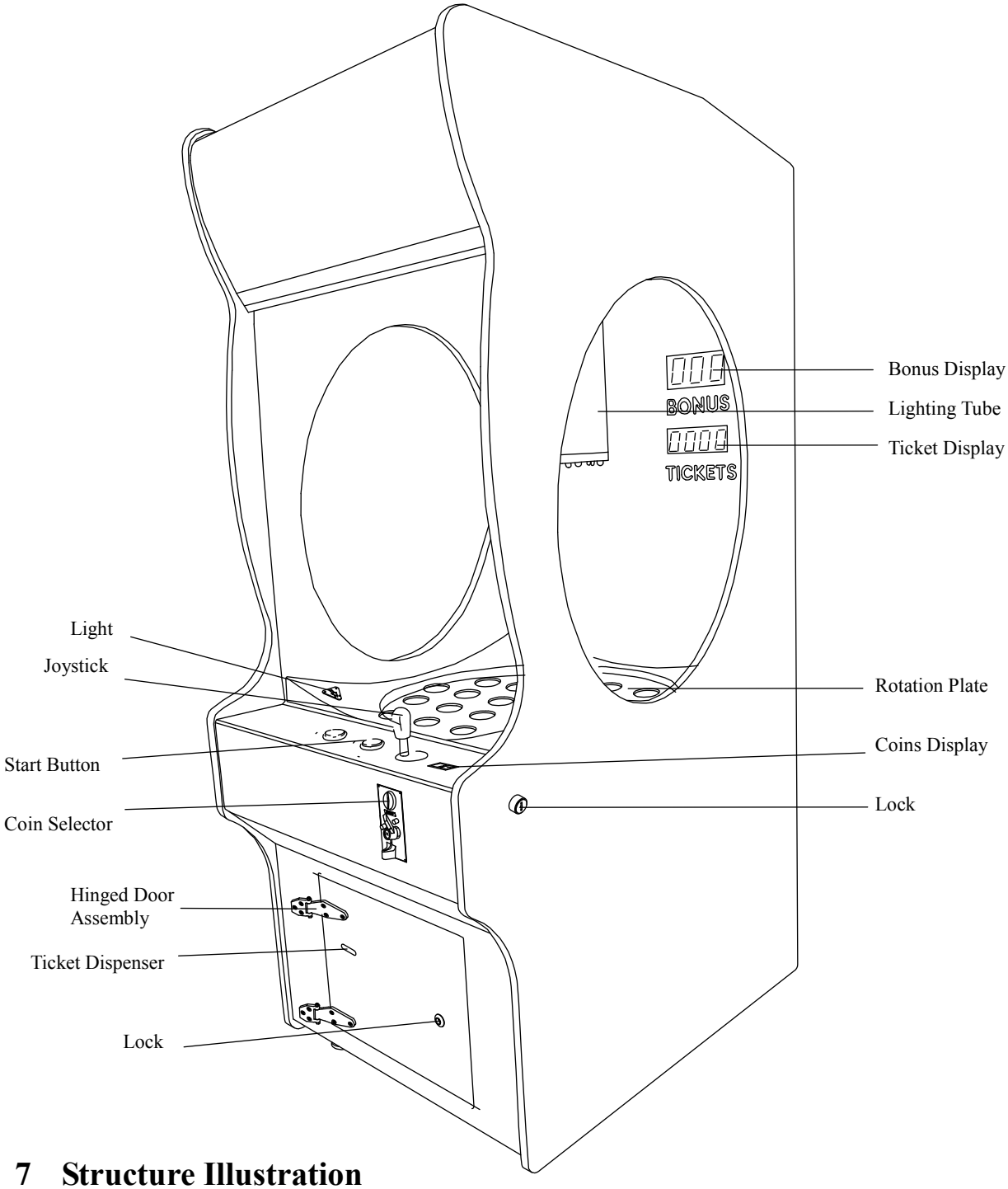
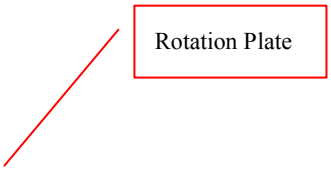
6 Machine Structure



7 Structure Illustration



ACORN DROP

Acorn

Pointer

Joystick

Meter display Panel

Ball way Assembly

Ball lift motor

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Main Board

Power Supply

Power Propel Board

Power Transfer Board

Speaker

Coin Selector

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8 Other Parts Structure Illustration

8.1 Meter Control Panel

LED Display A/B: Display the data information

SW1: Check the Data

Coins in Data

Press SW1 Button

1HL: xxxxxxxxxx display coins in data

2HL: xxxxxxxxxx display tickets out data

Display A (1H = coins in data – 4 digital first)

Display B (xxxx = the number of coins – 4 digital first)

Push the volume button up, continue to check the data.

Display A (1L = coins in data – 4 digital last)

Display B (xxxx = show the coins in number – 4 digital last)

Press SW4 button to withdraw the function.

Tickets out Data

Press the SW1 button, push the volume button up

Display A (2H = tickets out data – 4 digital first)

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Display B (xxxx = show the tickets out number – 4 digital first)
Push the volume button up, continue to check the data
Display A (2L = tickets out data – 4 digital last)
Display B (xxxx = the number of tickets – 4 digital last)
Press SW4 button to withdraw the function

Machine information Data

Press SW1 button, push the volume button up
Display A (-- = software edition)
Display B (xxxx = version of software)
Press SW4 button to withdraw the function
Press SW1 button, push the volume button up
Display A (== = machine type)
Display B (xxxx = type of machine)
Press SW4 button to withdraw the function

SW2: Service Button

Press SW2 to start the Game.

SW3: Test Button

Press SW3
Display A (P2 = hardware test)
Display B (1: test of LED display port 1)
Press SW3
Display A (P2 = hardware test)
Display B (2 = test of LED display port 2)
Press SW3
Display A (P2 = hardware test)
Display B (3 = test of ticket dispenser)
Press SW3
Display A (P2 = hardware test)
Display B (4 = test of track light)
Press SW3
Display A (P2 = hardware test)
Display B (5 = test of ball way mechanism (Front))
Press SW3
Display A (P2 = hardware test)
Display B (6 = test of ball way mechanism (Rear))

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Press SW3
Display A (P2 = hardware test)
Display B (7 = test of rotation plate mechanism)
Press SW3
Display A (P2 = hardware test)
Display B (8 = test of LED)
Press SW3
Display A (P2 = hardware test)
Display B (9 = test of LED)
Press SW3
Display A (P2 = hardware test)
Display B (10 = test of LED (Arrowhead))
Press SW3
Display A (P2 = hardware test)
Display B (11 = test of LED (Control panel))
Press SW3
Display A (P2 = hardware test)
Display B (12 = test of light bulb (Start Button))
Press SW3
Display A (P2 = hardware test)
Display B (13 = test of motor)
Press SW3
Display A (P2 = hardware test)
Display B (14 = test of light tube (Sign Box))
Press SW3
Display A (P3 = Sound test)
Display B (xx = Indicate which segment voice)
The test automatically withdraw after finishing.

SW4: Press SW4 button to withdraw the function.
Volume Control

Standby mode: Use the volume modulator to regulate volume.
Display A (P1 = Sound control)
Display B (xx = the number of volume)
0 = Maximum 15 = Minimum

Motion mode: Use the volume modulator to regulate volume, but the display will not show the

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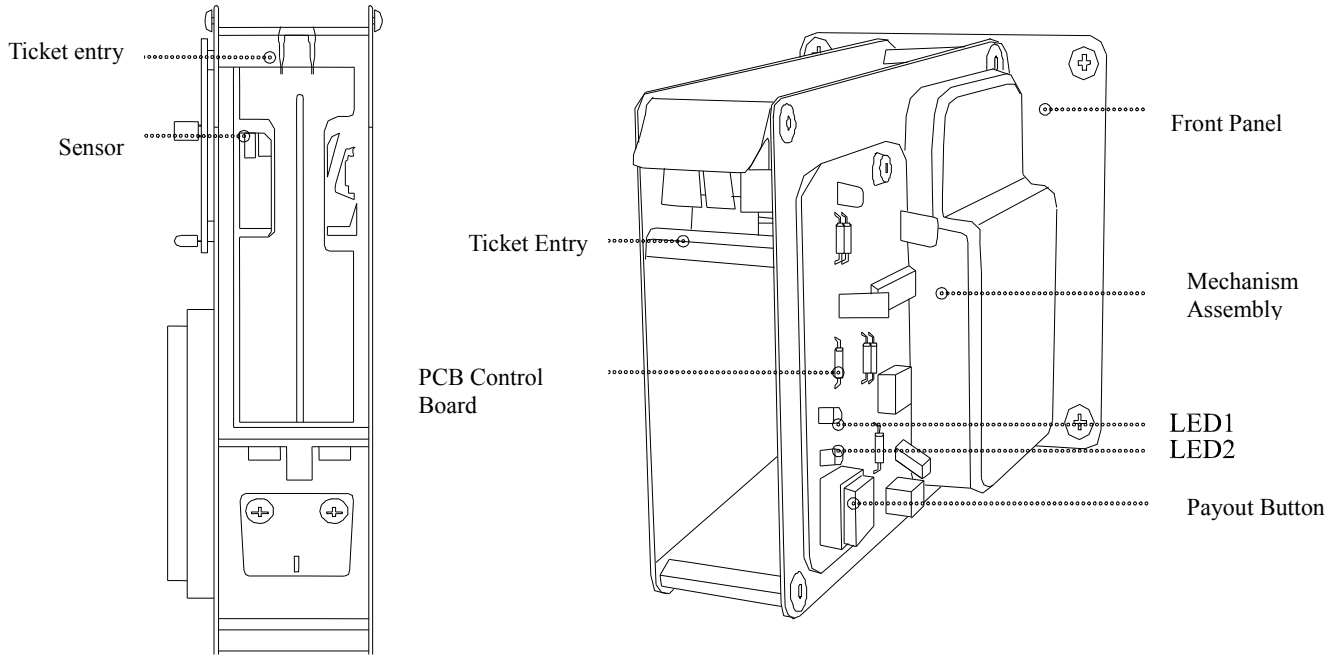
volume value.

8.2 Ticket Dispenser Assembly



LED: Ticket indicator

Ticket Sensor: Detect the tickets

Tickets install method: Tickets are entered into the rear of ticket Shut and pushed forward. The power driven roller will be spring loaded against the idler roller and tickets will not pass until rollers are clear of each other. This is accomplished by use of thumb and index finger, one placed on the block to which spring is attached, the other on the pivot bracket assembly, then squeeze. Push tickets through until you see edge of ticket. Machine is now ready to operate.

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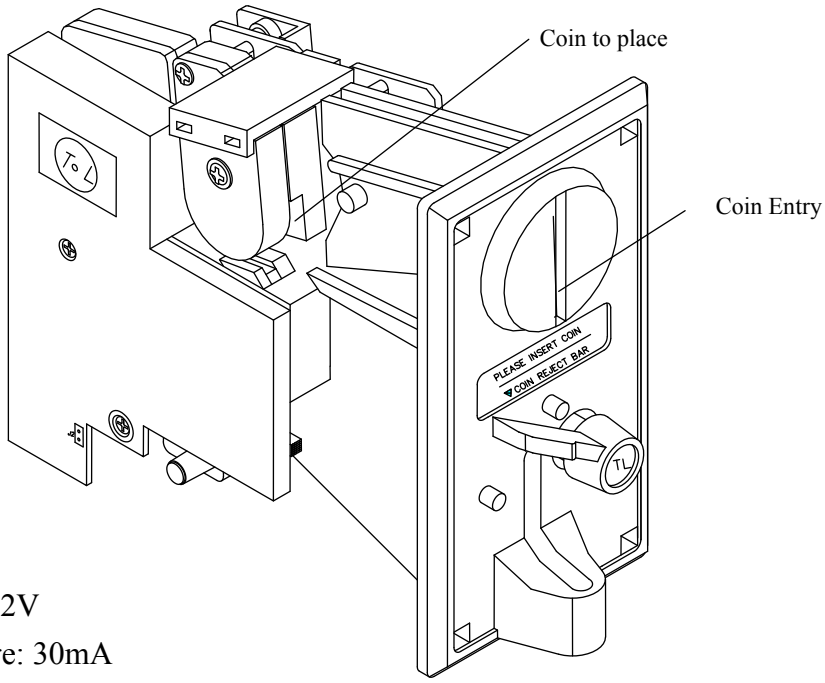
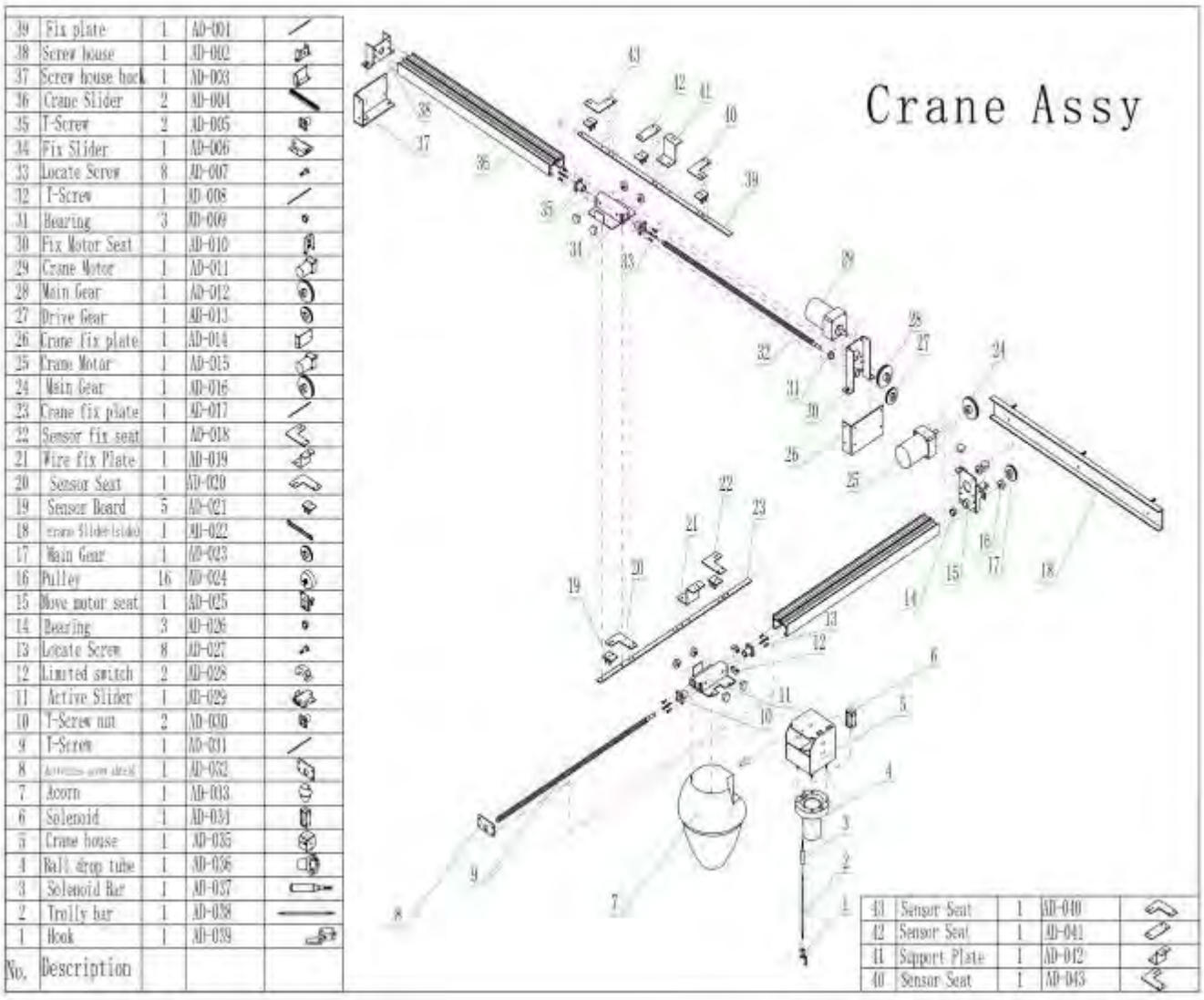
8.3 Coin Selector Assembly



Voltage: DC +12V
Loading Ampere: 30mA
Coins size: Diameter ψ22mm~ψ26mm, Thickness 1.6mm~2.0mm

8.4 Crane Assy

ACORN DROP



No.	Description			
39	Fix plate	1	AD-001	
38	Screw house	1	AD-002	
37	Screw house back	1	AD-003	
36	Crane Slider	2	AD-004	
35	T-Screw	2	AD-005	
34	Fix Slider	1	AD-006	
33	Locate Screw	8	AD-007	
32	T-Screw	1	AD-008	
31	Bearing	3	AD-009	
30	Fix Motor Seat	1	AD-010	
29	Crane Motor	1	AD-011	
28	Main Gear	1	AD-012	
27	Drive Gear	1	AD-013	
26	Crane fix plate	1	AD-014	
25	Crane Motor	1	AD-015	
24	Main Gear	1	AD-016	
23	Crane fix plate	1	AD-017	
22	Sensor fix seat	1	AD-018	
21	Wire fix Plate	1	AD-019	
20	Sensor Seat	1	AD-020	
19	Sensor Board	5	AD-021	
18	crane Slide(side)	1	AD-022	
17	Main Gear	1	AD-023	
16	Pulley	16	AD-024	
15	Move motor seat	1	AD-025	
14	Bearing	3	AD-026	
13	Locate Screw	8	AD-027	
12	Limited switch	2	AD-028	
11	Active Slider	1	AD-029	
10	T-Screw nut	2	AD-030	
9	T-Screw	1	AD-031	
8	[illegible]	1	AD-032	
7	Acorn	1	AD-033	
6	Solenoid	1	AD-034	
5	Crane house	1	AD-035	
4	Ball drop tube	1	AD-036	
3	Solenoid Bar	1	AD-037	
2	Trolly bar	1	AD-038	
1	Hook	1	AD-039	
43	Sensor Seat	1	AD-040	
42	Sensor Seat	1	AD-041	
41	Support Plate	1	AD-042	
40	Sensor Seat	1	AD-043	

8.5 Acorn Drop Parts

Acorn Drop Parts			
Item no	Code No.	Description	Photo
1	AD-033	Acorn Drop	

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2	AD-101	Speaker	
3	AD-102	Coin Tunnel	
4	AD-103	Pointer	
5	AD-104	Power Supply	
6	AD-105	Ticket Holder	
7	AD-106	Control Panel(Wood)	
8	AD-107	Spring	
9	AD-108	Towline	
10	AD-109	Power switch house	
11	AD-110	Ball drop Switch	
12	AD-111	Ball	

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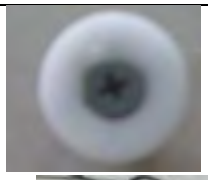
13	AD-112	Hinge	
14	AD-113	Fliter	
15	AD-021	Sensor Board	
16	AD-024	Pulley	
17	AD-114	Meter	
18	AD-115	Power Switch	
19	AD-116	Switch Green	
20	AD-117	Switch Red	
21	AD-118	Bearing 608	
22	AD-119	Meter house	
23	AD-120	Bearing F688	

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24	AD-121	Anti Daolian	
25	AD-004	Crane Slider	
26	AD-011	Crane Motor	
27	AD-121	Coin Slot	
28	AD-122	Face Acrylic	
29	AD-123	Fluorescent lamp T4-8W	
30	AD-124	Entropy Ticket Dispenser	
31	AD-125	Belt	

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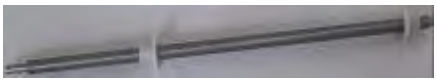
32	AD-008	T-Screw	
33	AD-012, AD-013	Gear	
34	AD-125	Cash Box	
35	AD-126	Light Box Fliter	
36	AD-127	Regulating wheel	
37	AD-128	Ball lift Motor	
38	AD-129	Pointer Led Board GA080625A	

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39	AD-130	Solenoid Ball Gate	
40	AD-034	Solenoid Ball Drop	
41	AD-131	Locker (GA282)	
42	AD-132	Locker (GA08)	
43	AD-133	Support foot	
44	AD-134	Joy stick	
45	AD-135	Main Board	
46	AD-136	Driver Board	
47	AD-137	Power Board	

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48	AD-138	Playfield Board GA-080604A	
49	AD-139	Digital (GA-0709258)	
50	AD-140	Digital (GA-080318A)	
51	AD-141	Playfield Motor	
52	AD-142	Conductive ring	
53	AD-143	Control Panel Acrylic	

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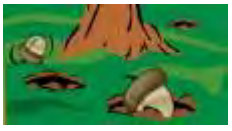
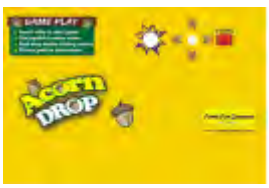
54	AD-144	Right Side Decal	
55	AD-145	Left side Decal	
56	AD-146	Playfield Decal	
57	AD-147	Face Decal	
58	AD-148	Ticket Door	
59	AD-149	Control Panel Decal	

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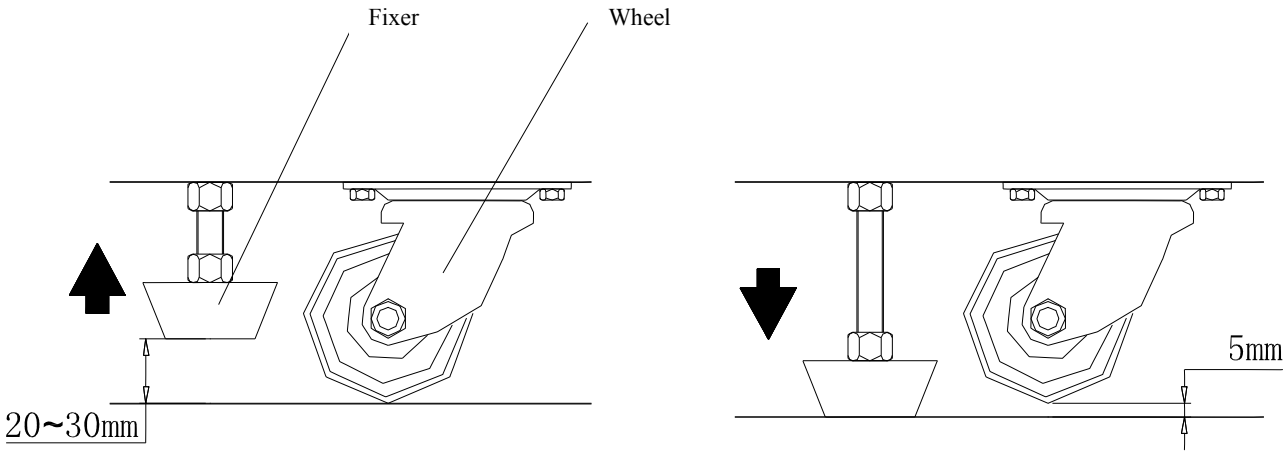
60	AD-150	Light Box Decal	
61	AD-151	Handle	
62	AD-152	Light Box Acrylic	
64	AD-153	Power cable	

9 Other Parts Assembly

9.1 Fix Module Assembly



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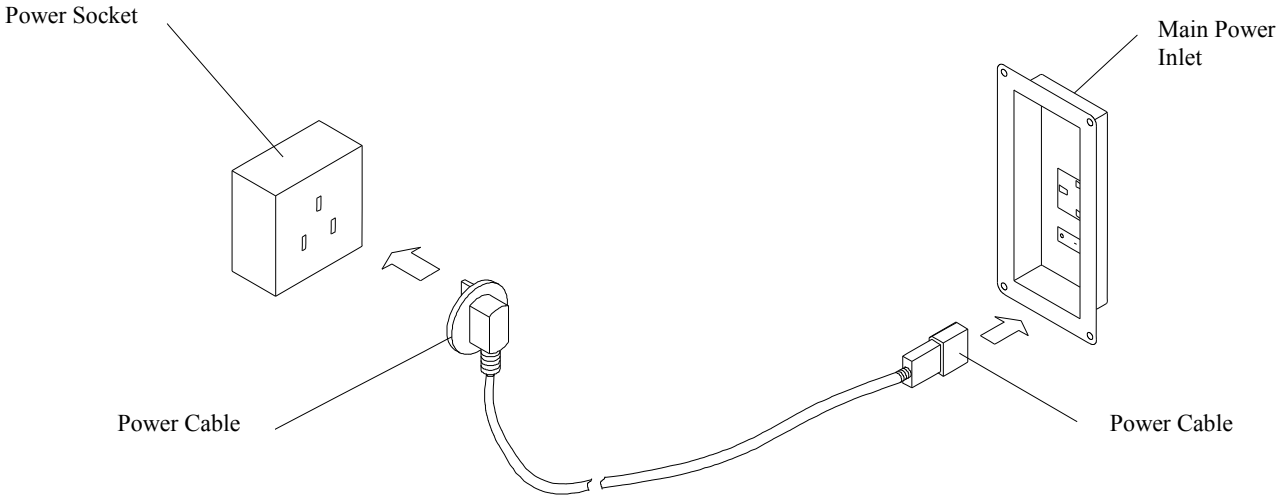
Warning

- **To avoid electrical shock, turn off the game power before removing.**
- **If appearing the wheel can't turn to move, please change the wheel.**
- **For a safety, please carefully move the machine.**

9.2 Main Power Connects



Warning

- Do not put the heavy object on the power cable.
- If the hand is wet, do not touch power cable.
- The power cable can not near the heat object.
- Use the proper fuses – To avoid electrical shock, use replacement fuses which are specified within this manual for this game. Replacement fuses must match those replaced in fuse type, voltage rating and current rating. In addition, the fuse cover must be in place during game operation (where applicable).

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10 Appendix

《Acorn Drop V3.1》 Dip SW table

<Acorn Drop >

Dip	Position								Description
	8	7	6	5	4	3	2	1	
SW1	ON								No ticket
	OFF								Ticket model
		ON							Have memory
		OFF							No memory
			ON						Power on will doing test
			OFF						Power on will nit test
				ON					Free Play
				OFF					Coin Operate
					ON	ON			4, 2, 1, 4, 9, 12, 40, 12, 9, 7, 15 60, 60, 15, 7, 9, 12, 40, 12, 9, 4, 2, 1, 4
					ON	OFF			2, 3, 1, 2, 10, 15, 30, 15, 10, 8, 15, 80, 80, 15, 8, 10, 15, 30, 15, 10, 2, 3, 1, 2
					OFF	ON			2，3,1,,2,10,15,30,15,10,10,15,Jackport Jackport,10,15,30,15,10,2,3,1,3
					OFF	OFF			1,3,1,2,5,4,75,5,10,8,30,jackport,jackport 3,,1,10,5,100,9,5,2,3,1,25
							ON	ON	One coin Jackpot Increase 1
							ON	OFF	One coin Jackpot Increase2
							OFF	ON	One coin Jackpot Increase 3
							OFF	OFF	One coin Jackpot Increase 4
	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	SW1 Factory Setting
SW2	ON	OFF	ON						Basic Jackpot =200
	ON	OFF	OFF						Basic Jackpot =250
	OFF	ON	ON						Basic Jackpot =300
	OFF	ON	OFF						Basic Jackpot =350
	OFF	OFF	ON						Basic Jackpot =400
	OFF	OFF	OFF						Basic Jackpot =500
							ON	ON	4 coins per credit
							ON	OFF	3 coins per credit
							OFF	ON	2 coins per credit
							OFF	OFF	1 coin per credit
					ON	ON			Maximum Jackpot =200
					ON	OFF			Maximum Jackpot =300
					OFF	ON			Maximum Jackpot =500
					OFF	OFF			Maximum Jackpot =999
	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	SW2 Factory default setting
SW3								ON	Fix Jackpot
								OFF	Jackpot increase by coins insert
							ON		Setting jackpot to basic Number

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							OFF		No use
						ON			Demon without music
						OFF			Demon with music
					ON				Demon without motor action
					OFF				Demon with motor action
				ON					Error Without alarm
				OFF					Error With alarm
		ON							Full Ticket
		OFF							1/2 Ticket
	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	SW3 Factory default setting

Remark: All setting must turn off the power

《Acorn Drop》 Error code table

16	E	xx	Error code
17	E	1	Ticket out error
18	E	3	Crane X (Horizontal) Error
19	E	4	Crane Y (vertical) Error
20	E	5	Ball liter and drop Error
21	E	6	Ball to playfield Error
22	E	7	Playfield detect over one more ball to the hole

10.1 《ACORN DROP》Code and Information

Item	Code	Message	Remark
1	P1	XX	0 = Maximum 15 = Minimum
2	P2	XXXX	XXXX = Message Code
3	P2	1	Test of LED display port 1
4	P2	2	Test of LED display port 1
5	P2	3	Test of ticket dispenser
6	P2	4	Test of Lighting Tube
7	P2	8	Test of Pointer
8	P2	9	Test of LED (Ball Hole)
9	P2	10	Test of LED (Arrowhead)
10	P2	12	Test of light bulb (Start button)
11	P2	13	Test of electromagnet
12	P2	14	Test of motor
13	P2	15	Test of electromagnet

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15	P3	XX	Test of sound xx~can be adjusted
16	E	XX	Error code
17	E	1	Ticket out error
18	E	3	Lighting tube assembly error (left and right)
19	E	4	Lighting tube assembly error (front and rear)
20	E	5	Ball way assembly error
21	E	6	Ball into hole overtime
22	E	7	Ball into hole reading error
23	SW1		Check coins data
24	SW2		Service button
25	SW3		Hardware testing
26	SW4		Withdraw function

10.2 《ACORN DROP》Resource Assignation

PIN Number	Port			Description	
IN0	JP1		I	D7	GA-080110A Main Board Score data connect port JP3
IN1			I	D6	
IN2			I	D5	
IN3			I	D4	
IN4			I	D3	
IN5			I	D2	
IN6			I	D1	
IN7			I	D0	
IN8	JP2		I	Joystick switch (front)	Joystick
IN9			I	Joystick switch (rear)	
IN10			I	Joystick switch (left)	
IN11			I	Joystick switch (right)	
IN12			I	Start button switch	
IN13			I	Bet button switch	
IN14			I		
IN15			I		
IN16	JP3		I	Lighting tube sensor (front)	Lighting tube sensor

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IN17			I	Lighting tube sensor (rear)	
IN18			I	Lighting tube sensor (left)	
IN19			I	Lighting tube sensor (right)	
IN20			I	Lighting tube sensor (central)	
IN21			I		
IN22			I	Ball position sensor	
IN23			I		
IN24	JP4		I	Coins selector output	
IN25			I		
IN26			I	Volume control K1 (High)	After setting, press SW4
IN27			I	Volume control K2 (Low)	Quit
IN28			I	SW1 Check coins data K3 (press SW4 Quit)	
IN29			I	SW1 Service button K4	
IN30			I	SW3 Hardware testing switch K5	
IN31			I	SW4 Quit K6	

PIN Number	Port			Description
DI	JP18		O	LED Display signal output: DI
CK			O	LED synchronous time signal: CLK
ST			O	LED output saves: ST
DI	JP19		O	LED Display signal output 2: DI LED4131 x 6
CK			O	LED synchronous time signal 2: CLK LED4131 x 6
ST			O	LED output saves: ST LED4131 x 6
+5V	JP13		P	+5V
GND			P	GND
GND			P	GND
+12V			P	+12V
SP-L	JP11		O	Speaker left
GND			O	GND
SP-R			O	Speaker Right

PIN Number	Port			Description
O0	JP5		O	Coins meter
O1	ULN2803		O	Tickets meter

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O2	OC Output		O	GA-080110A Board JP4-INA	
O3			O	GA-080110A Board JP4-INB	
O4			O	GA-080110A Board JP4-INC	
O5			O	Start button light bulb	
O6			O	LED	
O7			O	Bet button light bulb	
O8	JP6 ULN2803 OC Output		O	Lighting tube (front)	Lighting tube control
O9			O	Lighting tube (rear)	
O10			O	Lighting tube (left)	
O11			O	Lighting tube (right)	
O12			O	Motor	
O13			O	Motor	
O14			O		
O15			O		

PIN Number	Port			Description
O16	JP7 ULN2803 OC Output		O	LED damage
O17			O	LED damage
O18			O	LED damage
O19			O	LED damage
O20			O	LED damage
O21			O	LED damage
O22			O	LED damage
O23			O	LED damage
O24	JP8 ULN2803 OC Output		O	
O25			O	
O26			O	
O27			O	
O28			O	
O29			O	
O30			O	
O31			O	
OH24	JP9 SI4953		O	
OH25			O	

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OH26	12V Output		O	
OH27			O	
OH28			O	
OH29			O	
OH30			O	
OH31			O	
1	JP17		P32I	Tickets dispenser signal In
2			+12V	+12V (<500mA)
3			GND	GND
4			P33O	Tickets dispenser signal Out
1	JP20		GND	
2			Reset	